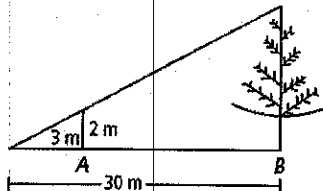


A. Read the information, Draw an illustration if there is not one and solve the problem

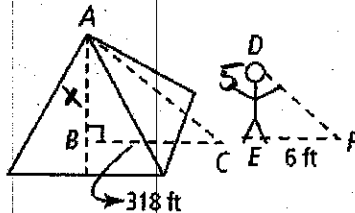
1. A stick 2 m long is placed vertically at point B. The top of the stick is in line with the top of a tree as seen from point A, which is 3 m from the stick and 30 m from the tree. How tall is the tree?



$$\frac{3}{30} = \frac{2}{x}$$

$$x = 20$$

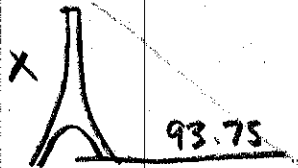
2. Thales was an ancient philosopher familiar with similar triangles. One story about him says that he found the height of a pyramid by measuring its shadow and his own shadow at the same time. If the person is 5-ft tall, what is the height of the pyramid in the drawing?



$$\frac{5}{x} = \frac{6}{318}$$

$$x = 265$$

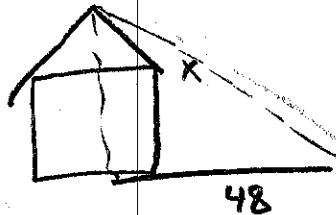
3. A 1.6-m-tall woman stands next to the Eiffel Tower. At this time of day, her shadow is 0.5 m long. At the same time, the tower's shadow is 93.75 m long. How tall is the Eiffel Tower?



$$\frac{x}{1.6} = \frac{93.75}{.5}$$

$$x = 300$$

4. At 4:00 p.m. Karl stands next to his house and measures his shadow and the house's shadow. Karl's shadow is 8 ft long. The house's shadow is 48 ft long. If Karl is 6 ft tall, how tall is his house?



$$\frac{x}{6} = \frac{48}{8}$$

$$x = 36$$

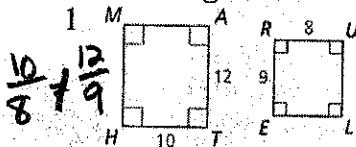
5. A 1.4-m tall child is standing next to a flagpole. The child's shadow is 1.2 m long. At the same time, the shadow of the flagpole is 7.5 m long. How tall is the flagpole?



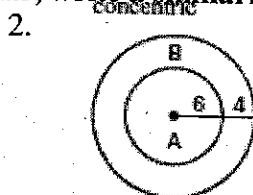
$$\frac{7.5}{1.2} = \frac{x}{1.4}$$

$$x = 8.75$$

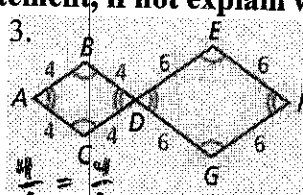
B. If the figures are similar, write a similarity statement, if not explain why.



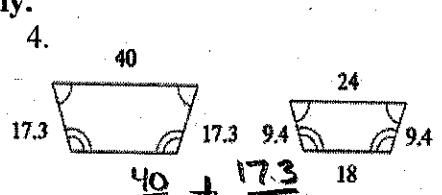
NO



$\odot A \sim \odot B$

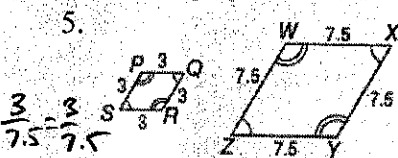


$\frac{4}{6} = \frac{4}{6}$
 $\square ABCD \sim \square DEFG$

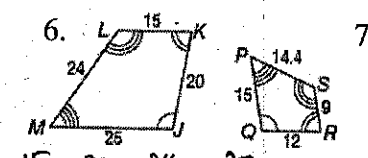


$\frac{40}{24} \neq \frac{17.3}{9.4}$

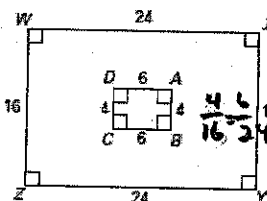
NO



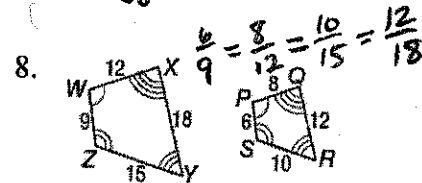
$\square PQRS \sim \square WXYZ$



$\frac{15}{9} = \frac{20}{12} = \frac{24}{14.4} = \frac{25}{15}$
 $\square JKLM \sim \square QRSP$



$\square ABCD \sim \square XYZW$



$\frac{6}{9} = \frac{8}{12} = \frac{10}{15} = \frac{12}{18}$
 $\square WXYZ \sim \square PQRS$

C. If the triangles are similar, state the postulate you can use to prove it and write similarity statement.

1. $\frac{10}{18} \neq \frac{9}{16}$ No

2. $\frac{6}{8} = \frac{9}{12}$ SSS

3. $\frac{10}{15} = \frac{14}{21}$ SAS

4. AA

5. $\frac{18}{12} = \frac{24}{16}$ SAS

6. AA

7. $\frac{8}{7} = \frac{3.5}{3.5}$ SAS

8. $\frac{12}{18} = \frac{14}{21}$ SSS

9. AA

10. No

11. AA

12. AA

13. $\frac{2}{4} = \frac{9}{6} = \frac{10.5}{7}$ AA, SAS, or SSS

14. $\frac{10}{15} = \frac{8}{12}$ No

15. $\frac{3}{12} = \frac{4}{16}$ SAS

16. SAS

17. $\frac{10}{5} = \frac{14}{28}$ SAS

18. $\frac{26}{13} = \frac{30}{15}$ SSS

19. No

20. $\frac{4}{8} = \frac{5}{10} = \frac{6}{12}$ SSS

21. AA

22. AA, SAS, SSS

23. AA

24. AA

D. Determine if the $BD \parallel AE$. Show your work.

1. $\frac{3}{6} = \frac{4}{8}$ Yes

2. $\frac{2}{1} \neq \frac{3}{1.2}$ No

3. $\frac{5}{9} \neq \frac{3}{11}$ No

4. $\frac{6}{5} = \frac{9}{7.5}$ Yes